Amendments to the Claims

This listing of claims will replace all prior versions, and listings of claims in the application.

1. (Previously presented) A positionally addressable array comprising a plurality of different substances on a solid support, with each different substance being at a different position on the solid support, wherein the density of the different substances on the solid support is at least 100 different substances per cm^2, and wherein the plurality of different substances comprises at least 61 purified active kinases or functional kinase domains thereof of a mammal, 61 purified active kinases or functional kinase domains thereof of a yeast, or 61 purified active kinases or functional kinase domains thereof of a Drosophila.

2. (Previously presented) The array of claim 1 wherein the density of the different substances on the array is between 100 and 1,000 different substances per cm^2.

3. (Previously presented) The array of claim 1 wherein the density of the different substances on the array is between 1,000 and 10,000 different substances per cm^2.

4. (Previously presented) The array of claim 1 wherein the density of the different substances on the array is between 10,000 and 100,000 different substances per cm^2.

5. (Previously presented) The array of claim 1 wherein the density of the different substances on the array is between 100,000 and 1,000,000 different substances per cm^2.

6. (Previously presented) The array of claim 1 wherein the density of the different substances on the array is between 1,000,000 and 10,000,000 different substances per cm^2.

7. (Previously presented) The array of claim 1 wherein the density of the different substances on the array is between 10,000,000 and 25,000,000 different substances per cm^2.

8. (Previously presented) The array of claim 1 wherein the density of the different substances on the array is at least 25,000,000 different substances per cm^2.

9. (Previously presented) The array of claim 1 wherein the density of the different substances on the array is at least 10,000,000,000 different substances per cm^2.

10. (Previously presented) The array of claim 1 wherein the density of the different substances on the array is at least 10,000,000,000,000 different substances per cm^2.

11. (Original) The array of claim 1 wherein the solid support is a glass slide.

12. (Withdrawn) The array of claim 1 wherein each different substance is present in a different well on the surface of the solid support.

13. (Withdrawn) The array of claim 12 wherein each different substance in a different well is bound to the surface of the solid support.

14. (Withdrawn) The array of claim 12 wherein each different substance in a different well is not bound to the surface of the solid support.

15. (Withdrawn) The array of claim 12 wherein each different substance in a different well is in solution.

16. (Withdrawn) The array of claim 12 wherein each well contains reagents for assaying biological activity of a protein or molecule.

17-92. (Canceled).

93. (Withdrawn) A kit comprising:

(a) one or more arrays of claim 1 comprising a plurality of wells on the surface of the solid support wherein the density of the wells is at least 100 wells/cm^2, wherein each of said different substances is present in a different well; and

(b) in one or more containers, one or more probes, reagents, or other second molecules.

94. (Withdrawn) The kit according to claim 93 wherein said one or more containers comprise a reagent useful for assaying biological activity of a protein.

95. (Withdrawn) The kit according to claim 93 wherein said one or more containers comprise a reagent useful for assaying interactions between a probe and a protein.

96. (Withdrawn) The kit according to claim 94 or 95 wherein the reagent is in solution.

97. (Withdrawn) The kit according to claim 94 or 95 wherein the reagent is in solid form.

98. (Withdrawn) The kit according to claim 94 or 95 wherein the reagent is contained in each well of the array.

99. (Withdrawn) The kit according to claim 94 or 95 wherein the reagent is contained in selected wells of the array.

100. (Withdrawn) The kit according to claim 93 wherein said one or more containers contain a solution reaction mixture for assaying biological activity.

101. (Withdrawn) The kit according to claim 100 wherein said one or more containers contain one or more substrates to assay said biological activity.

102-105. (Canceled).

106. (Withdrawn) The array of claim 1 wherein the solid support is composed of a silicone elastomeric material.

107. (Withdrawn) The array of claim 106 wherein the silicone elastomeric material is polydimethylsiloxane.

108 to 111. (Canceled).

112. (Withdrawn) The kit of claim 93 wherein the solid support is selected from the group consisting of a ceramic, amorphous silicon carbide, castable oxide, polyimide, polymethylmethacrylate, polystyrene, and silicone elastomer.

113. (Withdrawn) The kit of claim 112 wherein the solid support is a silicone elastomer.

114. (Withdrawn) The kit of claim 112 wherein the solid support is a polydimethylsiloxane.

115. (Withdrawn) The kit of claim 93 wherein the plurality of different substances are attached to the solid support via a 3-glycidoxypropyltrimethoxysilane linker.

116. (Withdrawn) The kit of claim 93 wherein the density of the wells is between 100 and 1,000 wells/cm^2.

117. (Withdrawn) The kit of claim 93 wherein the density of the wells is between 1,000 and 10,000 wells/cm^2.

118. (Withdrawn) The kit of claim 93 wherein the density of the wells is between 10,000 and 100,000 wells/cm^2.

119. (Withdrawn) The kit of claim 93 wherein the density of the wells is between 100,000 and 1,000,000 wells/cm^2.

120. (Withdrawn) The kit of claim 93 wherein the density of the wells is between 1,000,000 and 10,000,000 wells/cm^2.

121. (Withdrawn) The kit of claim 93 wherein the density of the wells is between 10,000,000 and 25,000,000 wells/cm^2.

122. (Withdrawn) The kit of claim 93 wherein each different substance in a different well is bound to the surface of the solid support.

123. (Withdrawn) The kit of claim 122 wherein each different substance in a different well is covalently bound to the surface of the solid support.

124. (Withdrawn) The kit of claim 123 wherein each different substance in a different well is covalently bound to the surface of the solid support through a linker.

125. (Withdrawn) The kit of claim 124 wherein the linker is 3-glycidoxypropyltrimethoxysilane.

126. (Withdrawn) The kit of claim 122 wherein each different substance in a different well is non-covalently bound to the surface of the solid support.

127. (Withdrawn) The kit of claim 93 wherein each different substance in a different well is free of binding to the surface of the solid support.

128. (Withdrawn) The kit of claim 93 wherein each different substance in a different well is in solution.

129. (Withdrawn) The kit of claim 93 wherein each well contains reagents for assaying biological activity.

130. (Withdrawn) The kit of claim 93 wherein volumes of the wells are between 1 pl and 5μl.

131. (Withdrawn) The kit of claim 93 wherein volumes of the wells are between 1 nl and 1 μl.

132. (Withdrawn) The kit of claim 93 wherein volumes of the wells are between 100 nl and 300 nl.

133. (Withdrawn) The kit of claim 93 wherein the bottoms of the wells are square, round, V-shaped or U-shaped.

134-137. (Canceled).

138. (Withdrawn) The array of claim 1 wherein the solid support is selected from the group consisting of a ceramic, amorphous silicon carbide, castable oxide, polyimide, polymethylmethacrylate, polystyrene, and silicone elastomer.

139. (Withdrawn) The array of claim 1 wherein the solid support is a silicone elastomer.

140. (Withdrawn) The array of claim 139 wherein the solid support is a polydimethylsiloxane.

141. (Previously presented) The array of claim 1 wherein the plurality of different substances are attached to the solid support via a 3-glycidoxypropyl-trimethoxysilane linker.

142. (Withdrawn) The array of claim 12 wherein the density of the wells is between 100 and 1,000 wells/cm^2.

143. (Withdrawn) The array of claim 12 wherein the density of the wells is between 1,000 and 10,000 wells/cm^2.

144. (Withdrawn) The array of claim 12 wherein the density of the wells is between 10,000 and 100,000 wells/cm^2.

145. (Withdrawn) The array of claim 12 wherein the density of the wells is between 100,000 and 1,000,000 wells/cm^2.

146. (Withdrawn) The array of claim 12 wherein the density of the wells is between 1,000,000 and 10,000,000 wells/cm^2.

147. (Withdrawn) The array of claim 12 wherein the density of the wells is between 10,000,000 and 25,000,000 wells/cm^2.

148. (Withdrawn) The array of claim 12 wherein each different substance in a different well is bound to the surface of the solid support.

149. (Withdrawn) The array of claim 148 wherein each different substance in a different well is covalently bound to the surface of the solid support.

150. (Withdrawn) The array of claim 149 wherein each different substance in a different well is covalently bound to the surface of the solid support through a linker.

151. (Withdrawn) The array of claim 150 wherein the linker is 3-glycidoxypropyltrimethoxysilane.

152. (Withdrawn) The array of claim 148 wherein each different substance in a different well is non-covalently bound to the surface of the solid support.

153. (Withdrawn) The array of claim 12 wherein each different substance in a different well is free of binding to the surface of the solid support.

154. (Withdrawn) The array of claim 12 wherein each different substance in a different well is in solution.

155. (Withdrawn) The array of claim 12 wherein each well contains reagents for assaying biological activity.

156. (Withdrawn) The array of claim 12 wherein volumes of the wells are between 1 pl and 5 μl.

157. (Withdrawn) The array of claim 12 wherein volumes of the wells are between 1 nl and 1 μl.

158. (Withdrawn) The array of claim 12 wherein volumes of the wells are between 100 nl and 300 nl.

159. (Withdrawn) The array of claim 12 wherein the bottoms of the wells are square, round, V-shaped or U-shaped.

Claims 160-161. (Canceled).

162. (Withdrawn) The kit of claim 93 wherein the organism is selected from the group consisting of human, primate, mouse, rat, cat, dog, horse, and cow.

163. (Canceled).

164. (Previously presented) The array of claim 1 wherein the mammal is selected from the group consisting of human, primate, mouse, rat, cat, dog, horse, and cow.

165. (Withdrawn) The array of claim 12 wherein the organism is selected from the group consisting of human, primate, mouse, rat, cat, dog, horse, and cow.

166. (Canceled).

167. (Withdrawn) The kit of claim 162, wherein the organism is human.

168. (Canceled).

169. (Previously presented) The array of claim 164, wherein the organism is human.

170. (Canceled).

171. (Withdrawn) The kit of claim 162, wherein the organism is mouse.

172. (Canceled).

173. (Previously presented) The array of claim 164, wherein the organism is mouse.

174. (Previously presented) The array of claim 164, wherein the organism is mouse.

175. (Withdrawn) The kit of claim 162, wherein the organism is rat.

176. (Canceled).

177. (Previously presented) The array of claim 164, wherein the organism is rat.

178-180. (Canceled).

181. (Previously presented) The positionally addressable protein array of claim 1, wherein the plurality of different substances comprises 61 different purified active kinases of an organism.

182. (Previously presented) The positionally addressable protein array of claim 1, wherein the plurality of different substances comprises 92 different purified active kinases of a mammal, a yeast, or a Drosophila.

183. (Previously presented) The positionally addressable protein array of claim 1, wherein the plurality of different substances comprises 110 different purified active kinases of a mammal, a yeast, or a Drosophila.

184. (Previously presented) The positionally addressable protein array of claim 1, wherein the plurality of different substances comprises 116 different purified active kinases of a mammal, a yeast, or a Drosophila.

185. (Previously presented) The positionally addressable protein array of claim 1, wherein the plurality of different substances comprises 119 different purified active kinases of a mammal, a yeast, or a Drosophila.

186. (Previously presented) The positionally addressable protein array of claim 1, wherein the plurality of different substances comprises 122 purified active different kinases of a mammal, a yeast, or a Drosophila.

187. (Canceled).

188. (Previously presented) The positionally addressable array of claim 1, wherein the kinases are yeast kinases.

189-192. (Canceled).

193. (Previously presented) The positionally addressable array of claim 1, wherein the different substances are 61 purified active kinases.

194. (Currently amended) The positionally addressable array of claim 193, wherein the kinases are serine/threonine kinase family members, tyrosine kinase family members, or ~~and~~ serine/threonine kinase and tyrosine kinase family members.

195. (Currently amended) The positionally addressable array of claim 1, wherein the functional kinase domains are functional kinase domains of serine/threonine

kinase family members, functional kinase domains of tyrosine kinase family members, ~~or~~ functional kinase domains of serine/threonine kinase family members or ~~and~~ functional kinase domains of tyrosine kinase family members.

196. (Canceled).

197. (Canceled).

198. (Canceled).

199. (New) The positionally addressable array of claim 193, wherein the 61 purified active kinases are at least 100 amino acids in length.

200. (New) The positionally addressable array of claim 193, which comprises a purified active kinase that phosphorylates Serine/Threonine and tyrosine.